

# Grain



Glimpse of Corn  
Products Refining  
Company's Ele-  
vator at  
Argo, Illinois

JULY  
1939



# *The Bridge You'll Never Cross*

*It's what you think that makes the world  
Seem dull or bright to you.  
Your mind may color all things grey  
Or make them radiant hue.*

•  
*Be glad today, be true and wise;  
Seek gold amid the dross.  
Waste neither time nor fear  
About the bridge you'll never cross*

•  
*There's useful work for you to do  
With hand and brain and heart;  
There's urgent human service too,  
In which to take your part.*

•  
*Make every opportunity  
A gain and not a loss;  
The best is yours, so do not fear  
The bridge you'll never cross.*

•  
*If life seems drear and difficult  
Just face it with God's will,  
You do not have to work alone  
Since He is with you still.*

•  
*Press on with courage toward the goal  
With truth your shield emboss  
Be strong, look up and do not fear  
The bridge you'll never cross*

*A. A. Mosher  
Los Angeles*

# Editorial

by HOWARD J. MONTGOMERY

## THE IDEAL FOREMAN

"The man who is referred to as one of the best foremen is likeable, tactful and human, he is not one of the hard boiled type. He is not selfish in his relations with his assistants, he is well liked by the workers, he makes no promises which he cannot carry out. He does not have to apologize. He does not envy the man of higher skill, he is ambitious. He does not worry about losing his position, he does not play shop politics. He is a leader. The Company's interest is foremost in his mind during working hours. He is first in line for promotion because he has developed an assistant who is qualified to take his place. His reward will be advancement to a more responsible position with corresponding increase in pay."

The Century Dictionary says: "A Leader is one who is first or most prominent in any relation; one who takes precedence by virtue of superior qualifications or influence, a recognized leader."

*Am I that man?*

### GRAIN

BOARD OF TRADE BUILDING  
CHICAGO, ILLINOIS  
TELEPHONE WABash 3111-2

A forum for  
OPERATIVE  
and  
MECHANICAL  
PROBLEMS  
in  
TERMINAL  
ELEVATORS

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on the tenth  
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# UNDERWRITERS REPORT ON EXPLOSION

WHETHER or not there was a preliminary puff or a small explosion in Calumet Elevator 'A' cannot be definitely established," reports the Chicago Board of Underwriters in part, in collaboration with the National Board of Fire Underwriters in surveying the Rosenbaum Brothers-Norris Grain Company explosion and fire loss in Chicago on May 11th. "Some employees in the elevator office about sixty feet to the west of (wooden) Calumet Elevator 'A' were conscious of only a single major explosion, but other testimony would indicate that a series of explosions occurred. Inspections of the concrete storage tanks and of the elevator leg at the east end of these indicate that the explosion was transmitted to them from Elevator 'A'.

## *Sprinkler Piping Destroyed*

THE automatic sprinkler piping in this building apparently was largely destroyed by the original blast. The automatic fire pump cut in, but it was practically useless on account of the broken riser piping, and records indicate that the electric service to the pump was off momentarily at first and continuously later on due to grounding the circuit.

"The early response of fire department companies was set up at different locations, well chosen for an attempt to surround the fire in Calumet Elevator 'A'. These were all driven from their positions by the unbearable heat . . . The effective reach of streams from the two squads located to the north between Calumet Elevators 'A' and 'B' was insufficient to prevent the radiated heat from igniting the latter. There is no apparent evidence that a second explosion contributed to the rapid spread of the fire in this elevator. The water curtain installed on the west wall of Calumet 'B' was not used. This was supplied from the sprinkler underground piping, with outside post indicator valve control normally closed. The water curtains between Calumet 'B' and 'C' (see June number of 'GRAIN') were also similarly installed and controlled . . . However, the proximity of these valves to the burning Calumet Elevator 'A' made it impossible to operate them.

## *Explosion Blows Downward*

CALUMET 'C' became ignited and shortly after this was noticed a considerable explosion occurred, originating in the cupola and then blowing out the walls of the ground floor. From the downward direction in which this explosion traveled, it is probable that the intensity of the explosion was increased by dust shaken loose by the collapse of portions of the cupola. After this explosion, all portions of Elevator 'C' burned fiercely.

"The heat wave rising from the burning elevators, particularly from Calumet Elevator 'C', apparently passed over Norris Elevator 'A', but contacted the cupola of Norris Elevator 'B', which was 158 feet high (the highest point in either of these two elevators) and about 400 feet from the cupola of Calumet 'C'. This point was entirely beyond the effective reach of any stream from either fire boat or from ground lines. Apparently, subsequent explosions spread the fire throughout within a short time.

## *27,000 Gallons A Minute Poured on Futilely*

OF the forty automobile pumping engines in operation at the fire, six were 1000 gallon and thirty-four were 750 gallon, making a total rated pumping capacity, at 120 pounds, of 31,500 gallons. Engines operated at from 150 to 325 pounds discharge pressure, and it is probable that the maximum delivery from them was at the rate of about 16,000 gallons a minute. The time in service at the fire ranged from 8 hours to 82 hours with a total of 914 hours. Two fire boats delivered 11,000 gallons a minute.

"The nine squad companies worked 180 hours, using a total of 34,000 feet of 2½-inch, 25,000 feet of 3-inch, and 9,000 feet of 3½-inch hose. During the fire, about 6817 gallons of gasoline, 305 gallons of lubricating oil, and 1661 gallons of fuel oil were used by the equipment working at the fire.

## *Precautions Exhaustive*

ONE 200 and one 250 horsepower synchronous motors, furnishing the main power to Calumet Elevators 'B' and 'C', were located in fire-proof rooms in a detached old boiler house building. There were numerous labeled dust-tight and non-sparking motors of various sizes in the elevators. Most of the starters and safety switches were located in fire-resistive and ventilated dust-tight rooms in Calumet Elevator 'A', and other switches were of oil-immersed and dust-tight type in other positions. In all but Calumet Elevator



'A' fuse cabinets were subject to refusing with doors open. Squirrel cage type motors were in concrete tank section. Power and light wiring was in conduit with motor frames and conduit grounded. Sparking devices consisted of sprinkler alarm switches and sprinkler and journal alarm bells in elevators. Vapor-proof lights and dust-tight switches and fuse cabinets were provided. Receptacles and portable lamps were labeled dust-tight with two-wire Tirez cord, except three-wire in Calumet Elevator 'A'.

ELEVATOR heads and legs in elevators of wood construction and wood scales and garners were all without suction. Incombustible elevator heads and legs and garner were in reinforced concrete tank section. No floor sweeps were provided, except on first floor and bin floor of Calumet Elevator 'A'. Automatic journal alarms were provided in all bearings in all three elevators.

### *Private Protection*

LOCAL sprinkler alarms connected to inside bells and to annunciator were located in the power house. A good supply of water barrels and buckets were on hand. Stand-pipe and hose system consisted of 15 outlets installed on a 6-inch system at various locations above basement of Calumet 'A'. There were 26 outlets installed at various locations above basement on a 6-inch system in Calumet 'B'. There were 34 outlets installed at various locations above the basement in Calumet 'C'. All outlets were 2½-inch and were equipped with 50 feet of 2½-inch hose. All systems were maintained dry and connected to 10-inch underground, supplied by fire pump also supplying sprinklers. Three 2-way hydrants, with 2½-inch outlets, installed on an 8- and 10-inch dead end yard main, supplied from a 100,000 gallon gravity tank, elevated 200 feet, and a 1000 gallon automatic electric fire pump were included in the private equipment.

### *Conclusions*

IT is almost impossible to establish the exact cause or the exact point of origin of the explosion. It appears that reasonable precautions had been taken in the way of safeguarding electrical installations, and some other precautions were taken toward the avoidance of sparks. While there were some provisions for abating dust, these were not as complete as might be found in elevators of more modern construction.

"The principal feature of interest in the structural conditions involved is the demonstration that metal-clad buildings have no greater fire resistance than ordinary frame. In fact, under such severe exposure conditions, the metal-clad building is probably at a disadvantage, both as to absorption of radiated heat and because of the inaccessibility of fire started behind the metal sheeting."

## **COMBUSTION OF DUST CAUSED EXPLOSION**

THE explosion and fire in the Rosenbaum Brothers' grain elevators on May 11th, with loss of nine lives and property damage of about \$4,000,000, was probably due to combustion of grain dust," according to a preliminary report made in Washington on July 15th by Dr. David J. Price and Hylton R. Brown of the USDA. These two officials investigated the disaster and have concluded that the catastrophe originated at the bottom of one of the grain conveyors of Calumet Elevator "A". A completely detailed account will be published in the near future by these authorities.

## **CHISEL, DUST, BLAMED FOR CALUMET BLAST**

FIRST off the press with all the answers to Chicago's biggest elevator explosion on May 11th was Chief Deputy State Fire Marshall Frank Doherty following the questioning of fifty-five witnesses.

"Sparks caused by a workman's cold chisel set off the explosion that wrecked the \$4,000,000 Rosenbaum Brothers' plant," he allowed. "Millwright Adam Matusiewicz told us that just before the blast he was repairing a metal spout leading from Calumet 'A' to the drier. He was working on top of the garner in the dryer building enlarging an iron collar that fitted around a metal spout. Berkely Moyland was helping him.

### *Trapped in Garner*

MATUSEWICZ said that Moyland was chiseling with a machine hammer and cold chisel underneath the spout. He was cutting this angle iron when the explosion occurred. Moyland told the same story, saying his foot became caught in the garner at the time of the explosion. He told Matusiewicz to run for his life.

"Moyland cut the laces of his shoe, freed his foot, and escaped. Henry Zehme, the boss millwright, recounted that he ordered this work done by the other millwrights.

"It is my opinion," the Doherty report concludes, "that this fire was caused by a dust explosion which



# **DUST EXPLOSIONS CAN BE PREVENTED!**

## **OUR PROVEN METHODS**

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SERVICE**

from Engineering to Installation



Survey of requirements and estimate of  
cost submitted without obligating you.

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was set off by a spark developed in the cold chiseling of the angle iron by the millwrights. The main force of the explosion centered at the point where this spout entered the house from the dryer. This is substantiated by the cracking and bulging of the east tank at the top."

(In the opinion of practically all of those to whom this report has been referred the two millwrights would never have lived to tell the tale had they originated the spark that ignited the dust that caused the explosion.—See June "GRAIN".)

### **KEEP DUST OUT OF GRAIN, PRICE ASKS**

**I**N a move with new determination to conquer, or sharply curb the one outstanding hazard that so far has defied virtually all their efforts, Dr. David J. Price of the USDA stated that the grain trade could easily eliminate dust explosions by winnowing out all dust from the grain with a suction process as it passes in the conveyor belts that carry it to the various bins of the elevator. He observed that the starch, cereal, feed and flour processors have minimized the intensity and frequency of blasts and quoted figures to show that the grain trade has made the least progress along this line.

"It is our aim now to endeavor to get the Boards of Trade, the carriers and the state and federal authorities that are concerned, to co-operate with us to the end that the elevators' owners may be permitted to remove this dust or chaff and, if necessary, keep the weight unchanged by putting the dust into bags that can be placed on top of the grain when it is reshipped. The percentage of such dust to the total amount of grain in a shipment is extremely small. In corn, for instance, dust is only .07 of 1 per cent of the total by weight.

"Dust explosions continue to occur in grain elevators," he cited." Since 1930, thirty-nine grain elevator explosions have been reported in which twenty-six persons were killed, eighty-seven were injured, and the property losses amounted to approximately \$3,500,000. These thirty-nine blasts were almost thirty-five per cent of the total number of dust explosions reported during this period in all industries, including refined sugar, powdered milk, powdered chocolate, cocoa, etc. This is due to a peculiar situation and it is one that must be changed. The grain that is temporarily stored in these elevators has been shipped by rail or water and it is subject not only to control of the carriers while it is there awaiting trans-shipment, but also to regulations of the various Boards of Trade and the Federal and state governments."



## SPARKS THOUGHT CAUSE OF BLAST

ENGINEERS and chemists comprising the coroner's jury selected by Chicago's coroner to investigate the \$4,000,000 grain elevator fire on May 11th are turning their attention to the electrical machinery used.

Blueprints have been requested before the inquest into the eight deaths is reopened on September 26th. The possibility that a spark from the electrical machinery may have caused the explosions and fire was expressed.

## SKY-LIGHTS IN CONVEYOR ROOF

NOTICEABLE in the pictures of practically all "silos," as grain elevators are termed in England, is the inverted "V" type sky-lights running the full length of all conveyor galleries. Ratchet-hinged composition walls would accomplish as much in case of an explosion, and would be more applicable to the various floors of the working house and basement.

## CONFERENCE ON INDUSTRIAL REACTION

ACO-OPERATIVE Regional Conference on Industrial Recreation was sponsored by The University College of Northwestern University on June 14th and 15th in Chicago. It was packed full of capital ideas applicable to your business. Needless to say the undertaking met with wide-spread response from industry. Minutes of the meeting are available at \$5 per copy. We shall give a summary when the material becomes available.

## MOVEMENT LEAPS AHEAD

WITH mountains of new crop grain literally submerging grain and processing elevators, the official report from Washington on the movement for the week ending July 8th shows 53,456 cars—and this in spite of the double holiday. At 2,000 bushels per car this amounts to 106,912,000 bushels for the period,—a tidy volume any way you look at it.

Yes sir, business is fine!

## IT'S THE HUMIDITY, NOT THE HEAT

IT'S the humidity, not the heat," we hear it said on annoyingly hot summer afternoons. Chemists tell us that it's the humidity and not the heat that also changes the moisture content of grain in storage,—a point sometimes overlooked in turning.

# MILLIONS

of dollars go up in smoke every year—just because of

## DUST EXPLOSIONS

Terminal elevators throughout the country are protecting elevator legs from dust explosion hazards with

## ROBERTSON SAFETY VENTILATORS

For balanced ventilation of grain storage bins a growing number of elevators are using

## ROBERTSON CAPACITY VENTILATORS

For light-weight, economical, long-lived corrugated roofs and side walls of terminal buildings, use

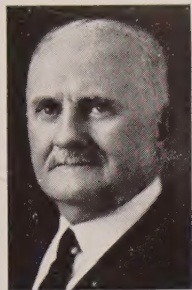
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## UNDERCONSUMPTION WORLD WHEAT AILMENT

IN the opinion of B. W. Snow, veteran Chicago grain statistician and crop expert, the present world's wheat crop is not sufficient to properly feed the population of wheat-eating countries.



Mr. B. W. Snow

Discussing proposals under consideration by the world wheat advisory committee, Mr. Snow stated that the trouble with the wheat situation is not overproduction but underconsumption and that the cure for world wheat ailment is not less food, but more food at a price range the world population can buy.

"This does not mean a low price for producers," Mr. Snow says, "but rather removal of commercial barriers that have been created to prevent international trade in food stuffs.

"In the past five years the average consumption per capita of wheat in the principal European countries has decreased some three quarters of a bushel. The same rate of use now that prevailed in 1932 would absorb present production. The decreased use is not because of the substitution of more agreeable foods, but is the result of high tariffs, quota allotments and excessive milling extraction requirements that have so increased the price of bread the world over that good bread is a luxury beyond the reach of a large share of the world's population.

### *Subsidies Futile*

GOVERNMENT interference with world exchange of products is responsible for making bread a luxury," Mr. Snow further contends, "and this is what has lowered the world's use of wheat.

"Our own recent experience has once again demonstrated that subsidized selling abroad of our wheat does not expand consumption but only puts an added burden on our tax-payers."

Mr. Snow believes that it is time the representatives of importing and exporting countries who make up the world wheat advisory committee give attention to the fact that a steady reduction of per capita consumption is the basis of the world's trouble, and that further decreased production is directly opposite of the answer demanded by hungry stomachs. He concludes:

"What is wanted is ample supplies and distribution without artificial price enhancement, and any other program is a mere palliative effort that dodges fundamentals."

## ACTIVITIES OF THE MALT RESEARCH INSTITUTE

PROVISIONS were made at the June meeting of the executive committee of the Malt Research Institute for considering requests for membership on the executive committee by any bonafide group of malt-using industries.

Mr. L. M. Josephson, Secretary and Field Representative for the Institute, reported that the fields of Oderbrucker and Wisconsin Pedigree 38 contracted with growers in two areas of the state of Wisconsin were progressing in good condition and final arrangements were made for the assembling, handling, cleaning, sizing and malting of the barleys for experimental use by the malt-using industries.

An industrial research fellowship grant of two thousand dollars was placed at the University of Wisconsin for the support of research on the barley and malt evaluation. Dr. J. G. Dickson of Madison, Wisconsin and Dr. G. A. Wiebe of the United States Department of Agriculture will co-operate with the executive committee in the co-ordination of the experimental and industrial investigations.

JULY 13th is to be Barley Field Day at the University of Wisconsin and everyone interested in barley will look over the barley varieties, barley breeding, barley disease tests and malting laboratories at the Agronomy Building.

### MR. AND MRS. POW PRESENTED TO THEIR MAJESTIES

AMONG those presented to Their Majesties Queen Elizabeth and King George on the occasion of their visit in Fort William on May 23rd were Mr. and Mrs. R. B. Pow, whom you see pictured

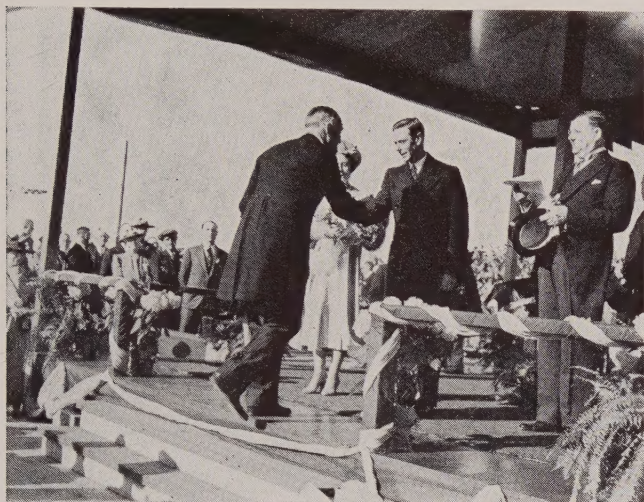


It was a happy day, indeed, and one which will be long-remembered by Fort William's former Mayor and prominent resident, who is also one of the Society of Grain Elevator Superintendent's capable and active Directors. Mr. Pow is Superintendent of the Reliance Grain Elevator in Fort William.



## WE PROUDLY PRESENT:

A VERY interesting picture of His Majesty King George intently examining a decoration worn by Mr. N. M. Paterson, head of N. M. Paterson & Company, Ltd., during Presentation Ceremonies to Their Majesties in Fort William on the recent and memorable visit of May 23rd.



At the time of the Coronation Mr. Paterson went to England and was decorated by the King at Buckingham Palace with an Order, "Officer of the Grand Priory in the British Realm of the Venerable Order of the Hospital of St. John of Jerusalem." This is quite a long title for a Royal decoration and was given Mr. Paterson for his interest in a British organization known as the St. Johns Ambulance Brigade.

So, in the scene you see here, the King is actually renewing acquaintance with Mr. Paterson.

We feel highly honoured and deeply grateful to Mr. Paterson for his permission to publish this news in "GRAIN."

## YES, BUT WHAT DO YOU WANT?

MANY advantageously use the post card enclosed with each number of "GRAIN." We think more could do so profitably.

On the card you will find various notations in which you are frequently concerned but sometimes forget to follow them down to see what can be done for you.

Should you not find what you are looking for there is a special line at the bottom reading: "I want to buy: —" We're at your especial service.

The card is addressed and stamped. It will take but a minute to fill it out. Why not use it to your benefit now?

## JAMES RICHARDSON DIES

JAMES A. RICHARDSON, prominent grain exporter of Winnipeg, passed away on June 26th. Honoring him, trading on the floor of the Winnipeg Grain Exchange halted at 11:30 A.M. on June 29th. Special resolutions of condolence were adopted at the meeting which followed.

It was his firm who contributed the most enjoyable boat inspection-trip of the Fort William-Port Arthur elevator front when the Superintendents' Society met there in 1937.

## EMPLOYMENT SERVICE

BELIEVING that there are NOT enough genuinely good Superintendents to go around, that a good Super is a money-maker for his firm, that square pegs never were meant to fit in round holes, and that if Owners and Operators could be apprised of the availability of top-notch Supers momentarily unemployed then everyone would be happier, "GRAIN" offers a complimentary, confidential Employment Service which past experience qualifies us to handle to everyone's satisfaction. Listings, either open or blind, are invited for both Positions Available and Positions Wanted. The back section of this number inaugurates this service.

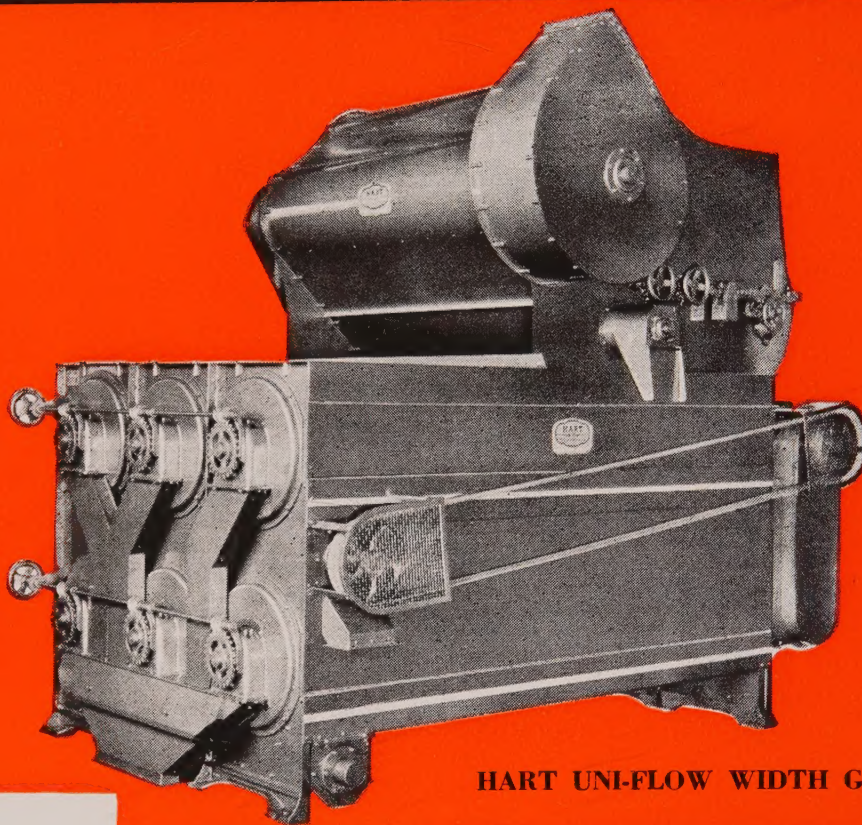
## THE POOR MAN CARRIES HIM, TOO

[Memphis Commercial-Appeal.]





# CASH IN ON THIS MONEY Grade by Plumpness



HART UNI-FLOW WIDTH GRADER

## WITH or WITHOUT SCALPER

The Hart Uni-flow Width Grader can be had in models with or without scalper and with or without aspirator. The scalping and aspirating devices which have been developed by Hart-Carter engineers especially for use with Hart-Carter grain cleaning systems, are outstanding for their thoroughness and efficiency.

All Hart Uni-flow cylinders are equipped with the patented Uni-flow Control. This positive, power-driven mechanism is in constant operation to insure a uniform flow of grain and a uniform grain line in the cylinders at all times regardless of the grain going through. An exclusive feature, the Hart Uni-flow control contributes to the speed, capacity and accuracy of Cylinder separation.

An important feature of the Hart Uni-flow Width Grader is the ease with which results can be regulated. Adjustments, though simple, are positive and exact. They provide wide flexibility under close control.

## GRADE FOR PREMIUM PRICES with the HART Uni-flow Width Grader

The Hart Uni-flow Width Grader meets terminal width grading problems in a practical, economical and efficient way. It will both needle and grade barley and will grade wheat, oats, durum and rye according to plumpness. In a single compact machine, with or without scalper, accurate width separations are performed with an efficiency, capacity and flexibility that far surpass any previous standards. The Hart Uni-flow Width Grader can be quickly adjusted to provide finer or coarser grading without change of equipment. In the handling of wheat, durum, rye and oats the units provide two grades — plump and thin. In the handling of barley surprising results are possible since units can be had to yield two, three, four or even five grades. The Hart Uni-flow Width Grader opens up new profit possibilities for Terminal operators and maltsters. Get full description and prices without delay. Be prepared to earn the extra premiums that width grading can command.

## HART - CARTER COMPANY

706 NINETEENTH AVENUE N. E.

MINNEAPOLIS, MINNESOTA



# MAKING COMBINATION Separate by Length!

## ST YOUR PROFIT PER BUSHEL a Hart-Carter Grain Separator!

There are two ways to increase your income with Hart-Carter equipment — *first*, by cleaning and separating by length with the terminal-size Carter Disc-Cylinder Separator or with large capacity Hart Uni-flow All-cylinder Separator — *second*, by grading by width or plumpness with the Hart Uni-flow Width Grader. Both the Carter Disc-Cylinder Separator and the Hart Uni-flow Grain Separator have been especially designed to widen your profit margin per bushel. They will clean more grain more rapidly and more thoroughly per dollar of investment than any other standard terminal equipment. Without any change of equipment and at high capacity, they will clean and separate by length barley, wheat, durum, rye, tame buckwheat and oats. From barley they will remove wheat, skinned and broken barley, oats, wild oats, Trebi, and weed seeds, removing even the difficult round seeds such as wild peas. From wheat, durum and rye they will remove cockle, wild buckwheat, wild peas, pigeon grass, mustard, oats, wild oats and barley. They will also grade spring wheat out of durum. Take advantage of these many exacting separations that can be made at big capacity and at low cost. Install your Hart-Carter equipment now, in time for this year's crop.

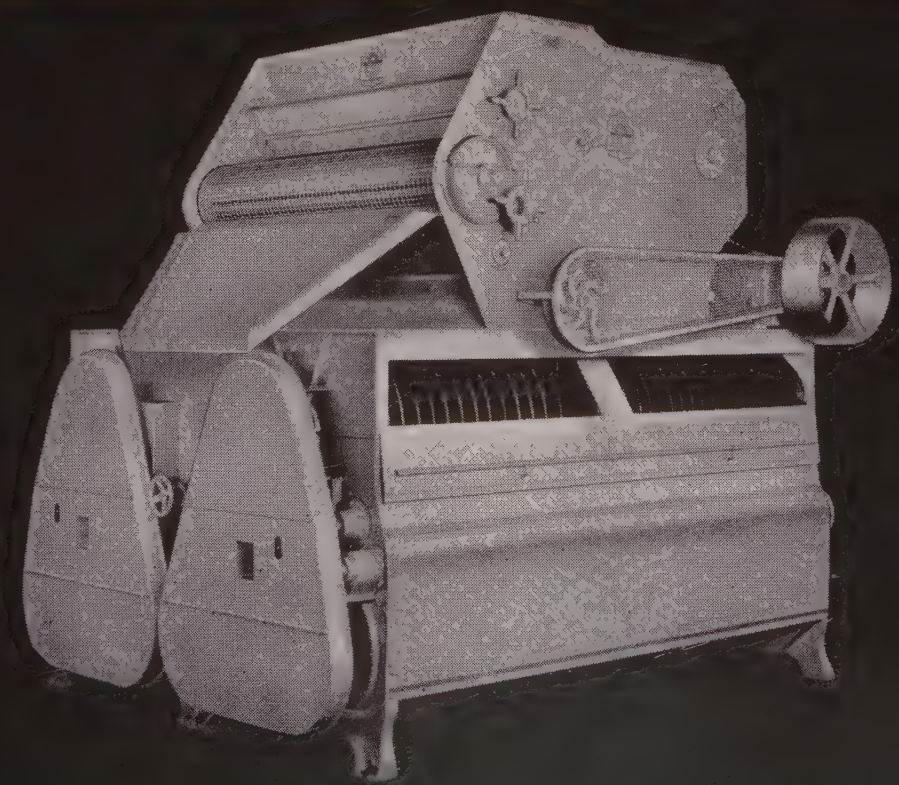
### DISCS & CYLINDERS COMBINED

Harnessed together in the Carter Disc-Cylinder Separator are four outstanding efficient methods of cleaning grain — Discs plus Cylinders plus Scalping and Aspiration. Carter Discs are known the world over for their flawlessly exact separations. Hart indented Cylinders offer wide flexibility in results. Working in combination, these two famous cleaning systems set a new high in efficiency at a low cost.

### OR STRAIGHT ALL- CYLINDER SEPARATION

In addition to the No. 2564 Disc-Cylinder Separator illustrated below, Hart-Carter offers the No. 44 Hart Uni-flow all-cylinder Grain Separator, designed especially for terminals where all-cylinder separation is preferred. The Hart Uni-flow Separator, embodying many exclusive features, widens the flexibility, increases the capacity, and simplifies the control of indented cylinder grain cleaning. A complete, self-contained grain cleaner, including both scalping and aspirating units, the Hart Uni-flow is simple to operate, easy to adjust and highly efficient in its separation. It will clean from 1400 to 1600 bushels of spring wheat per hour, and has large capacity on barley, oats, durum and rye.

2564 CARTER DISC-CYLINDER SEPARATOR





## IMPROVED COOPERATION OF GRAIN HANDLING AGENCIES NOTED BY FEDERAL BUREAU

THE importance of complete cooperation by the vital agencies which handle grain shipments on their course from country points, through terminal exchanges such as the Chicago Board of Trade, to the dinner tables of consumers, is becoming more generally appreciated.

This is attested in a grain inspector's letter, issued by the Chicago office of the United States Bureau of Agricultural Economics. In part the communication states:

"Reports recently received from district supervisors indicate that during recent years there has been a decided improvement in the manner in which elevator carlot shipments of grain are prepared for inspection and grading, particularly at the larger markets of the country.

"Occasionally, however, a car of grain is offered for inspection which is loaded so high in the ends of the car that the grain is not readily accessible for securing a representative sample of the lot for inspection purposes.

"Failure to properly trim cars of grain is usually the result of negligence of some minor employee. When responsible officials of elevator companies are informed that grain is not properly trimmed to permit satisfactory sampling, none of them defends the practice.

"It is obvious to everyone familiar with grain inspection work that the securing of a representative sample of the entire lot of grain to be graded is a necessary prerequisite to the determination of the true grade of the grain . . . "

## EXIT ARGOL

Right on top of an announcement of the formation of the Agricultural-Engineering Foundation of San Francisco, California, established to raise farm income, comes the report that the Atchison (Kansas) "alky-gas" plant is closing up,—going the way of the corn stalk paper plant at Danville, Illinois.

Reasons for closing this corn consuming plant which made and sold corn alcohol as an anti-knock admixture for motor cars are given as excessive costs, refusal of Chemical Foundation to pour in more than the \$500,000 already expended, failure to interest private capital, inability to enlarge and improve plant in hope of reducing costs, and, lastly, the cool reception accorded by the general public.

## ALFRED SLOAN AND GRAIN

Mr. Alfred Sloan, President of General Motors, recently presided at a most revealing conference in New York in which the future of industry as moulded by research scientists was painted as most glowing. Most disappointing was it to observe that grain, the most basic commodity known, was not listed among those for which expanding horizons seemed assured through research. Some day, we think, the grain handling industry is going to have some catching up to do on this score to their own enhanced profit.

## ON THAT TANK FARM

By DR. E. R. DARLING, San Francisco

"Tank Farming" is a most interesting subject but one that is not for the layman for a while—as one can see after viewing the various layouts, especially those in this part of the country.

Little or no work has been done on the chemistry of the vegetables and grains produced by this method. We do know that the tomatoes are much firmer and most ideal for canning, also that they are putting out a special tomato pack here and getting a fancy price for it.

As to amino acids in wheat, which is the coming consideration, I have a feeling that they would be much more uniform through the tank farm method, however there are ways and means of raising the amino acid content (which should eventually be done) under present production methods.

## POEM

By ZEKE WISEACRE'S SON

Verse One

*I like to go a-fishing in the good old summer time;  
I love to feel the tingle of a live one on the line.*

Verse Two

*But shucks, oh heck! Oh luck that's rum and rummer,  
My Superintendent daddy can't go fishing in the  
summer!*

\* \* \*

*He who will not accept orders has no right to  
give them; he who will not serve has no right to  
command; he who cannot keep silence has no  
right to speak.*





## Horseshoe Tournament

THE pictures you see on this page were taken during the Horseshoe Tournament held by the Kansas City Chapter of the Society of Grain Elevator Superintendents on Saturday afternoon, June 3rd. This pitching contest — instigated by Gilbert Schenk of Weevil-Cide Company — is one of the highlights of the summer and met with so much enthusiasm that a movement is now afoot to start similar tournaments in other Chapter cities, — winding up with a grand finale at the end of each season, the winning team in each Chapter to play off for one grand prize at the Toronto convention.

It was estimated that at least 200 attended this outdoor affair staged at Klamm Park, Kansas City, Kansas. Sixteen teams vied for first, second and third prize money of \$25.00, \$15.00 and \$10.00 and the schedule of play is given herewith:

### *The Big Battle*

The contest started off with Cargill's Elevator "B" team No. 1 of G. Burris and Mr. Schineman vs. Uhlmann Grain Company's "Katy Elevator" team of M. Nalley and C. Wade. The "Katy" boys took the honors.

The W-i-n-n-a-h-s! In the upper right hand corner are the winners showing, from left to right: Messrs. Glass and Nalley (Santa Fe Elevator), Nalley and Wade (Katy Elevator), and Mayer and Lynch (River-Rail Elevator).

In the lower right hand corner John Heimovics snapped the Ralston-Purina group of Russell German and Russell Wright (front), Orville Wiley and Charles Jodts (center), and T. W. Delaney, Plant Manager W. H. Kamp and his son.

Our appreciation to our contributing photographers.

Cargill's Elevator "B" team No. 2 of G. Riddle and G. Duncan defeated Continental Grain Company's "Kansas-Missouri Elevator" team of Wm. Deegan and Mr. Babbitt, and then in turn were beaten by the "Katy" team above.

Wolcott & Lincoln's "Alton Elevator" team of Mr. Vantzi and O. B. Duncan out-pitched the Kansas Flour Mills team of W. Messersmith and C. Amos.

Hart-Bartlett-Sturtevant Grain Company's "River-Rail Elevator" team of F. Mayer and Mr. Lynch bested Uhlmann Grain Company's "Wabash Elevator" team, and then took on the "Alton" gang

and won. The "River-Rail" boys were then pitted against the "Katy" ringers above and lost in the semi-finals.

Simonds-Shields-Theis Grain Company's "Rock Island Elevator" team of W. Kuhn and E. Womble fell before Davis-Noland-Merrill Grain Company's "Santa Fe Elevator A" No. 1 team of B. Nalley and C. Glass.

Moore-Seaver Grain Company's "K.C. S. Elevator" team of H. Ross and C. Swearingen lost to Davis-Noland-Merrill Grain Company's "Santa Fe Elevator A" No. 2 team of W. Moore and W. Kennedy. Then the first "Santa Fe" team licked the second "Santa Fe" team.

Ralston-Purina's first team of R. German and R. Wright outringed Simonds-Shields-Theis Grain Company's "Milwaukee Elevator" team of D. Rowe and C. O. Wyer.

### *Into the Exciting Finals*

Ralston-Purina's second team of C. Jodts and O. Wiley walked away from Standard Milling Company's "Wyandotte Elevator" team of R. Rumold and C. Kneals. Thus the first and second Ral-



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ston teams were left to fight it out and the Number One team came out on top. The successful No. 1 Ralston team next tumbled in the semi-finals before the Number One "Santa Fe" Number One team above to bring the play into the exciting finals.

Uhlmann Grain Company's "Katy" team of M. Nalley and C. Wade put up a gallant fight in the last bracket against Davis-Noland-Merrill Grain Company's No. 1 team of B. Nalley and C. Glass, but the latter boys got a grade of Number One Hard, Tough — yes, too tough for the "Katy" crew.

The "Katy" players, however, did walk off with second prize, trailed by Hart-Bartlett-Sturtevant Grain Company's "River-Rail" ringers of F. Mayer and G. Lynch.

Scorekeepers (and they were kept plenty busy) were W. Foster and J. Wright.

Credit for carrying through all plans to a successful and smooth conclusion go to P. A. "Jimmy" Kier of Standard Milling Co., — who worked ceaselessly and tirelessly for many weeks prior to the "Big" day.

Wives and members also thanked John Heimovics of the Great Western Mfg Company and other Associate members for the soft drinks and refreshments served throughout the day.

## A Warning to Elevator Superintendents and the Grain Trade in General

A new fumigant has recently been developed and will in all probability soon be offered for sale to the grain and milling trade to be used as a grain fumigant.

It has been brought to my attention that this product, **methyl bromide**, while promising from an insecticidal standpoint, is—on the basis of preliminary reports—open to grave doubts as to its possible hazard to life and health, particularly if it should be used under actual grain elevator conditions.

Due to the fact that this product is still entirely in the experimental stage as applied to fumigation of grain in elevators—including even the important questions of dosage and application—there is a strong possibility of its being introduced before its action is properly understood. For that reason several managers of prominent grain firms have suggested that I write this article as a warning to our members and to all other members of the grain trade, irrespective, to take no chances with methyl bromide until its effects on human life and health are thoroughly and properly investigated.

A recent bulletin published by the United States Public Health Service, National Institute of Health, Division of Industrial Hygiene, should be of interest as indicating the present status of methyl bromide with regard to possible health hazard. The bulletin is entitled, "Prelimi-

nary Recommendations to Fumigators Using Methyl Bromide or Mixtures Containing Methyl Bromide as a Fumigant."

Its contents are as follows:

"The use of methyl bromide as a fumigant for dried fruits, potatoes, apples, grains, cured tobacco, shrubs, strawberry slips, and other plants, has increased within the past year. Samples of methyl bromide examined, as furnished to the trade by the manufacturers, were of high purity and had little characteristic odor. Inasmuch as it has a very slight odor, toxic concentrations of methyl bromide may be encountered and the persons so exposed may be unaware of the danger. It has been shown by animal experiments that the concentrations as used in fumigation work are toxic on inhalation.

"One fatality and several cases of illness of a serious nature in men have been reported following the prolonged inhalation of methyl bromide as a fumigant.

"The United States Public Health Service calls attention to the following: that all persons using methyl bromide as a fumigant, and all persons engaged in unloading or removing produce or other fumigated materials from cars, sheds, or rooms in which commodities have been fumigated, be warned of the toxic properties of methyl bromide; the dangers from inhaling the gas and the absence of odor should be stressed; and that while methyl bromide is less toxic to man than certain fumigants, all persons fumigating with methyl bromide or mixtures containing methyl bromide, or persons entering fumigated rooms, cars, or sheds to open ventilators or to unload fumigated materials, observe precautions used with other toxic fumigating gases. Experience indicates that adequate precaution will obviate danger of injury by this gas.

"In cooperation with the United States Department of Agriculture, the United States Public Health Service is carrying out laboratory and field studies on the toxicity of methyl bromide, with a view of developing methods of use and control which will adequately protect the users of gas, the handlers and consumers of fumigated products.

"The following precautionary measures are recommended for the use of methyl bromide as a fumigant:

### Preliminary Recommended Precautionary Measures.

- "1. Avoid breathing air containing methyl bromide.
- "2. On completion of fumigation, provide thorough ventilation for cars, rooms or buildings, before entering.



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- "3. When necessary to enter spaces containing methyl bromide, use a gas mask provided with a canister giving protection against organic vapors, or a positive pressure hose mask. (Masks and canisters to be approved under United States Bureau of Mines Schedules 14D or 19A. Canisters, black, type B.)
- "4. Avoid spilling of methyl bromide. Get to fresh air immediately in case of spillage. Remove any clothing in contact with skin which has become impregnated with the liquid.
- "5. Post warning signs notifying that methyl bromide is being used and that the gas is toxic.
- "6. Containers of methyl bromide should be stored in a cool, well-ventilated place, outside inhabited buildings. Avoid leakage by seeing that valves on cylinders are tightly closed."

That there are strong grounds for seriously questioning the safety of this product is indicated by the fact there have been several well-authenticated cases of death or severe poisoning ascribed to methyl bromide in European countries. Most of these cases occurred among workers in plants where methyl bromide was being manufactured or used.

In practically all of these instances the effects were of a particularly insidious nature in that they did not occur until a matter of hours or even days following exposure to the gas. In most cases the symptoms had a general similarity and included nausea, unconsciousness and convulsive attacks which increased in frequency in those cases where death resulted. In those cases where death did not result, recovery was usually accompanied by marked mental depression and other neurotic symptoms extending over a period of months in some cases.

It has been suggested by exponents of methyl bromide fumigation that the European cases of fatality and poisoning might have been due to other and more lethal compounds present as impurities in the product. They have pointed out that methyl bromide — as manufactured in Europe — contained appreciable percentages of impurities whereas the product manufactured in the United States is over 98% pure.

Granting that this contention might have considerable merit, it is nevertheless true that the comparatively pure American product has been responsible for at least one death in this country.

This fatality occurred as a result of fumigating a warehouse containing a large quantity of sacked rice, application being made over the surface of the sacks. The victim was an experienced fumigator who had done extensive work with methyl bromide as well as other fumigants. The

application required over an hour during which time he and his assistant had partial, though admittedly inadequate, gas mask protection. After completing the application the fumigator and his assistant experienced no serious effects until enroute to their homes. They were then seized with characteristic severe symptoms. In the case of the fumigator these became progressively worse. Death resulted on the fourth day. The assistant suffered much less severe effects and eventually recovered. Although he had been exposed to a considerable concentration, it would appear his survival was due to the fact that his exertions and respiration had not been so heavy as the man making the actual application.

This case brings home to us an important point, namely, that while there has been an extensive use of methyl bromide in the field of fruit fumigation during the past two or three years, most of the application has been made either by or under the supervision of research or technical men, professional fumigators or other workers specially instructed in this type of work. Moreover, much of the methyl bromide work has been performed under control conditions, such as vault fumigation, or on a small unit scale where risk to the handler or worker can be minimized.

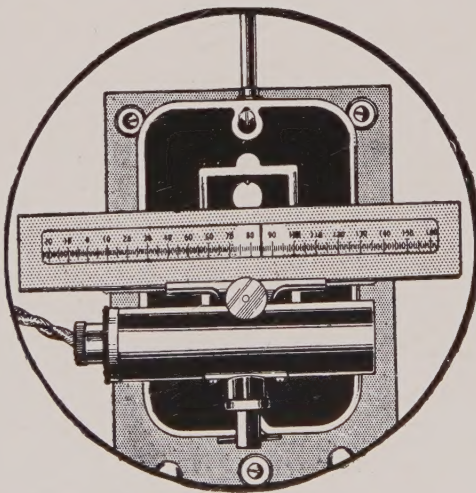
This is a very different picture than the conditions represented in the average grain elevator. Here, when fumigation becomes necessary, the operation is often on a large scale, frequently involving the treating of anywhere from a few thousand to a million bushels. Moreover, in normal elevator practice, the actual application

is handed over with a few instructions to one or more men not necessarily skilled in handling fumigants. This has been a safe procedure with most of the commercial fumigants on the market. *Would it be safe to use a product whose potentialities are unknown and untried under the particular conditions found in grain elevators? Equally important—would it be safe to handle grain or work in bins or bin bottoms following methyl bromide fumigation?*

It is regrettable that untried insecticides are often enthusiastically recommended to the grain or milling trade. The entire emphasis is frequently laid on killing power while such factors as possible odor or other effects on the grain, action on milling or processing, and danger to personnel, are minimized or completely disregarded. Many elevator men can probably recall either buying or trying out some preparation for grain which turned out to be a kerosene-base product. Only recently a somewhat similar example came to the writer's attention. A German product in powdered form was recommended as being the last word in a grain fumigant. It was also suggested that a large tank of wheat be treated as a test. Instead, a small sample was treated. Result: a loss of three pounds in testweight!

Returning to methyl bromide, it may well be that the preliminary reports have given an exaggerated picture of the dangers of this product. In spite of the foregoing it might eventually prove to have considerable merit as a grain fumigant. After adequate investigation its use might prove feasible under certain conditions or with suitable precautions.

(Concluded on Page 19)



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## KEEP YOUNG

Every man or woman should believe in keeping young. They should be glad to meet and mingle with people who also believe in keeping young and who do not allow themselves to grow stale in any way; for when they meet with such people, they will notice that the number of years they have been upon this earth cuts very little figure in their attractiveness, nor as to the help they are in keeping those with whom they associate young and interested in life. We should all heartily accord with the sentiment uttered by Dr. Oliver Wendell Holmes, who said that, "to be seventy years young was far more cheerful than to be forty years old."

Youth is an expression. It dances in your eyes — the mirrors of your mind. It shows itself in the smile that plays around the corners of your mouth. It speaks in your laughter. It is evident in your conversation; in your love and understanding of others. So, if you think that you are getting old, warns a writer in Pearson's London Weekly, if you speak regretfully of "the good old days" that have gone just stop and realize that those "good old days" have not gone. Today is one of them. Tomorrow and all the other tomorrows can bring you the same thrills and the same beautiful moments. Find out what is lacking in your life, why you have allowed your mind to get lazy. That is all it is, for you are as old as you think you are.

## GOOD LUCK FORMULA

Most industrial accidents are the direct result of carelessness. Here are five rules for accident prevention:

1. See the aisles between machines are kept free of dripping oil on which a passerby may slip.
2. Ditto rubbish or stray tools. One-fifth of all industrial accidents are caused by falling.
3. Watch out for tattered overalls that may get caught in machinery. Dangling neckties have caused more than a few accidents.
4. Use the right tool for every job. A wrench was never meant to be used as a hammer nor a screwdriver as a chisel.
5. Men sometimes remove safety devices from machines to save a little time on some operation or to make it easier. Safety guards are put on machines for a purpose. The more this is recognized, the fewer accidents there will be.

*As a good luck formula, care has it all over the proverbial rabbit's foot.*



## A WARNING—

(Continued from page 17)

At the same time it must be borne in mind that previous use of methyl bromide as a grain fumigant has been almost entirely confined to treating sacked grain in warehouses where conditions allowing ventilation following fumigation are greatly superior to those found in tunnels and basements of grain elevators. Methyl bromide gas is three and one-half times as heavy as air. If a gas of such specific gravity were to persist on the grain following fumigation, it would lodge in the tunnel when the treated grain was moved. In that event, depending on the residual concentration, a very real hazard to workers might be created.

As against this, the findings of some investigators suggest that during a lengthy exposure methyl bromide gas would be hydrolyzed or broken down by the action of the moisture in the grain. That this would actually take place under practical conditions in all cases should be definitely proven and the time limit defined. It should be established to the satisfaction of the U. S. Department of Health that there is no hazard in methyl bromide fumes in the concentration that would be encountered on treated grain in elevator bin bottoms and tunnels.

In order to pursue our investigation the progress and development of methyl bromide will be examined. Large scale tests will be conducted under suitable supervision by a reliable and competent group of investigators. Actual elevator facilities will be utilized so as to establish practical conditions for the tests. Due attention will be paid to occupational hazards typical of fumigation in grain elevators.

Meanwhile we will keep abreast of any new reports by the U. S. Department of Health. All new developments and additional information will be published in "Grain" for the benefit of the trade.

(signed) T. C. MANNING,

President, Society of Grain Elevator Superintendents.

## NEW MINNEAPOLIS OFFICERS

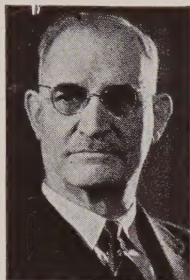
HERE are the new officers of the Minneapolis Chapter of the Society of Grain Elevator Superintendents just elected at their recent meeting:

Malcom M. Noxon, Ralston-Purina Company, President; E. L. Dobbin, Van Dusen-Harrington Company, First Vice President; Frank "Slim" Carlson, Russell-Miller Milling Company, Duluth, Second Vice President, and F. Maynard Losie, Hallet & Carey Company, Secretary-Treasurer.

## JUNE MEETING WELL ATTENDED

A Kansas City Chapter meeting of the Society of Grain Elevator Superintendents always commands the attention of all elevator and processing plant Superintendents in this busy grain center, and the June 13th meeting was no exception.

"We had an even fifty on hand at the Meadow Lake Golf Club," National President T. C. Manning reports, "and this



was one of our best meetings. In addition to the business session, where four new members were initiated and several prospective members turned in to our new Membership Committee, there was good music

provided by our Associate members, and four young ladies entertained us with instrumental numbers and dancing. We all joined in the singing of old, familiar songs and, needless to say, a grand time was had by all."

Archery, chinese checkers and cards were also enjoyed. As Claude Darbe said, "The indoor games created quite a hazard in some parts of the room, but the rubber tipped bullets and arrows only frightened us and we were all glad to be present." (Apparently the Safety Committee, of which Mr. Darbe is Chairman, inspected every bullet and arrow carefully,—for the only after-effects reported were "sprained" throats caused by too much "Auld Lang Syne," and tender hands from enthusiastic and vociferous applause.)

## MARYLAND WHEAT EXCELLENT

PETE" Peterson, our Baltimore correspondent, (Norris Grain Company Elevator) tells us the farmers in his section of the country are cutting and threshing in earnest and that wheat was coming up from the Eastern "Sho" by boat as early as early as June 26th.

"It runs about 16½% moisture so far and tests on an average of 57 pounds," Pete says, "Our first truck came in on the 27th of June and tested 15% moisture and 58½ pounds per bushel. This came from upstate and we expect to really get down to business by the end of the week."

Pete has also been up in the wheat section north of Baltimore and declares the prospects are fine for a big yield up there.

If you have ever seen grain grown in Pete's territory you will understand his statement that "A large part of the farms are operated by Pennsylvania Dutch, who are real farmers. Their places are all well kept and the grain we get from them is clean without exception."

## THE B'S HAVE IT!

BY an odd coincidence, most of the names of "GRAIN'S" distinguished visitors for the month of June began with the letter "B". Here they are:

Norman Boodway, Collingswood, Ontario; Frank E. Blodgett, Kansas City, Mo.; M. D. Bell, Minneapolis, Minn.; and Mr. Otto Bast, Minneapolis, Minn., President of National Grain & Feed Dealers Association.

Those in other sections of the alphabet were Oscar W. Olsen, Duluth, Minn.; C. J. Alger, Corn Products Refining Company, Chicago; and C. W. Turning, Duluth, Minn.

Coming to Chicago in July? Pay us a visit, won't you? Our offices are cool but our reception won't be, we assure you.

## NEW CROP DEAL

MUCH enthusiasm is evident over the new wheat crop. It is of high quality, — much of it grading No. 1 dark hard, 63-lb. test weight, 12.5% moisture, with 1.2% dockage on the average.

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### Positions Available

Construction Superintendent: — Give experience and references, salary and availability to leave country. Address 39M3.

Elevator Superintendent: — Opening in South American million bushel corn plant. Would expect contract for term of years. Advise monthly compensation (American money) expected. State experience, give references, age, etc. Address 39M4.



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